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ENVIRONMENTAL LEVELS OF RADIOACTIVITY
FOR THE OAK RIDGE AREA

(Report for Period, July - December, 1962)

Compiled by the

Applied Health Physics Section

Health Physics Division

OAK RIDGE NATIONAL LABORATORY

APPROVAL FOR RELEASE

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Title/Subject ENVIRONMENTAL LEVELS OF RADIOACTIVITY
FOR THE OAK RIDGE AREA (Report for
Period, July - December 1962)

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TABLE III
CALCULATED AVERAGE CONCENTRATION OF RADIOACTIVITY
IN THE CLINCH RIVER AT MILE 20.8

July - December, 1962

Number of Samples Taken	Units of 10^{-7} $\mu\text{c/ml}$			% of (MPC) _w
	Maximum ^a	Minimum ^b	Average	
182	11.7	0.09	2.9	6.4

^aMaximum weekly average.

^bMinimum weekly average.

TABLE IV
AVERAGE CONCENTRATION OF MAJOR RADIOACTIVE CONSTITUENTS
IN THE CLINCH RIVER

July - December, 1962

Location	Units of 10^{-8} $\mu\text{C}/\text{ml}$							Average Beta Activity	(MPC) _w ^a	% of (MPC) _w
	Sr ⁹⁰	Ce ¹⁴⁴	Cs ¹³⁷	Ru ¹⁰³⁻¹⁰⁶	Co ⁶⁰	Zr ⁹⁵	Nb ⁹⁵			
Mi. 41.5 ^b	0.11	0.10	0.02	0.7	*	0.16		1.1	89	1.2
Mi. 20.8 ^c	0.14	0.02	0.09	9.4	0.18	0.02		29	450	6.4
Mi. 4.5	0.28	0.23	0.01	11	0.18	0.34		12	310	3.9

^aWeighted average (MPC)_w calculated for the mixture using (MPC)_w values for specific radionuclides recommended in the NBS Handbook 69.

^bSampling station moved from Clinch River Mile 33.2 to Mile 41.5 about January 1, 1962.

^cValues given for this location are calculated values based on levels of waste released and the dilution afforded by the river; they do not include amounts of radioactive material (e.g., fall-out) that may enter the river upstream from CRM 20.8.

* None detected.

TABLE V
URANIUM CONCENTRATION IN THE CLINCH RIVER

July - December, 1962

Sampling Point	Type of Analyses Made	No. of Samples*	Units of 10^{-8} $\mu\text{c/ml}$			% (MPC) _w
			Maximum	Minimum	Average	
Upstream from ORGDP	Uranium Concentration	25	0.6	0	0.1	< 0.01
Downstream from ORGDP	Uranium Concentration	26	5.4	0	0.4	0.02

* Normal Sampling Frequency: Continuous, composited over one week.

TABLE VI
EXTERNAL GAMMA RADIATION LEVELS
mr/hr

July - December, 1962

Station Number	Location	July	August	Sept.	Oct.	Nov.	Dec.	Average
1	Solway Gate	0.030	0.045	0.025	0.042	0.040	0.034	0.036
2	Y-12 East Portal	0.023	0.044	0.026	0.034	0.029	0.024	0.030
3	Newcomb Road, Oak Ridge	0.027	0.027	0.023	0.034	0.028	0.026	0.028
4	Gallaher Gate	0.025	0.037	0.033	0.040	0.049	0.041	0.038
5	White Wing Gate	0.018	0.021	0.025	0.035	0.018	0.023	0.023
Average		0.025	0.035	0.026	0.037	0.033	0.030	0.031

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